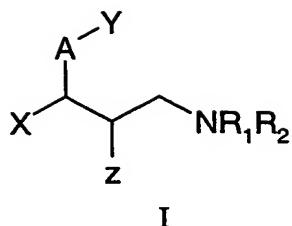


## Claims

1. A compound of formula I:



5 wherein

A is selected from O and S;

X is selected from

10 phenyl optionally substituted with up to 5 substituents each independently selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl and C<sub>1</sub>-C<sub>4</sub> alkoxy;  
 thienyl optionally substituted with up to 3 substituents each independently selected from halo and C<sub>1</sub>-C<sub>4</sub> alkyl; and  
 C<sub>2</sub>-C<sub>8</sub> alkyl, C<sub>2</sub>-C<sub>8</sub> alkenyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl and C<sub>4</sub>-C<sub>8</sub> cycloalkylalkyl, each of which  
 15 may be optionally substituted with up to 3 substituents each independently selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl-S(O)<sub>n</sub>- where n is 0, 1 or 2, -CF<sub>3</sub>, -CN and -CONH<sub>2</sub>;

20 Y is selected from phenyl, naphthyl, dihydrobenzothienyl, benzothiazolyl, benzoisothiazolyl, quinolyl, isoquinolyl, naphthyridyl, thienopyridyl, indanyl, 1,3-benzodioxolyl, benzothienyl, indolyl and benzofuranyl, each of which may be optionally substituted with up to 4 or, where possible, up to 5 substituents each independently selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl-S(O)<sub>n</sub>- where n is 0, 1 or 2, nitro, acetyl, -CF<sub>3</sub>, -SCF<sub>3</sub> and cyano; and when Y is indolyl it may be substituted or  
 25 further substituted by an N-substituent selected from C<sub>1</sub>-C<sub>4</sub> alkyl;

Z is selected from OR<sub>3</sub> or F, wherein R<sub>3</sub> is selected from H, C<sub>1</sub>-C<sub>6</sub> alkyl and phenyl C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sub>1</sub> and R<sub>2</sub> are each independently H or C<sub>1</sub>-C<sub>4</sub> alkyl;

or a pharmaceutically acceptable salt thereof

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with the proviso that when Y is optionally substituted phenyl or optionally substituted 1,3-benzodioxolyl and Z is OR<sub>3</sub> and X is optionally substituted phenyl then A is S.

2. A compound as claimed in claim 1, wherein A is O.

10

3. A compound as claimed in claim 1, wherein A is S.

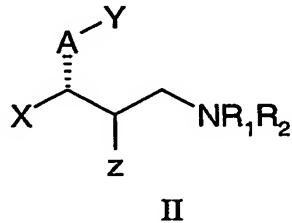
4. A compound as claimed in any one of the preceding claims, wherein one of R<sub>1</sub> and R<sub>2</sub> is H.

15

5. A compounds as claimed in any one of the preceding claims, wherein one of R<sub>1</sub> and R<sub>2</sub> is H and the other is methyl.

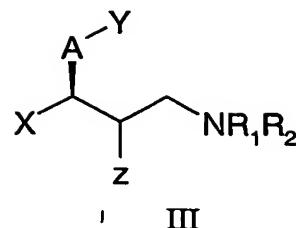
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6. A compound as claimed in any one of the preceding claims, wherein the compound possesses the stereochemistry defined in formula II

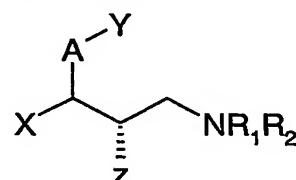


7. A compound as claimed in any one of claims 1 to 5, wherein the compound possesses the stereochemistry defined in formula III

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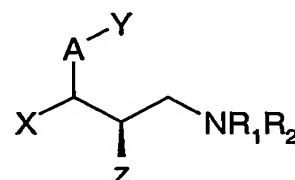


5 A compound as claimed in any one of claims 1 to 5, wherein the compound possesses the stereochemistry defined in formula IV



IV

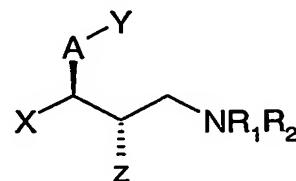
9. A compound as claimed in any one of claims 1 to 5, wherein the compound possesses the stereochemistry defined in formula V



V

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10. A compound as claimed in claim 7 or claim 8, wherein the compound possesses the stereochemistry defined in formula VI

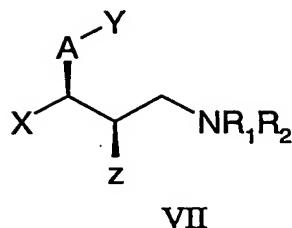


VI

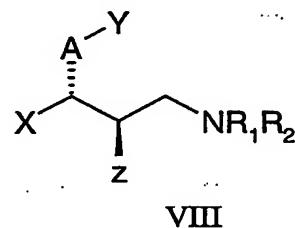
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11. A compound as claimed in claim 7 or claim 9, wherein the compound possesses the stereochemistry defined in formula VII

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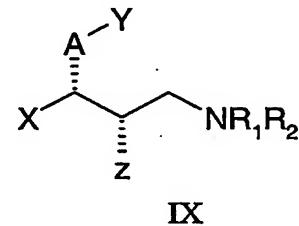


12. A compound as claimed in claim 6 or claim 9, wherein the compound possesses the stereochemistry defined in formula VIII



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13. A compound as claimed in claim 6 or claim 8, wherein the compound possesses the stereochemistry defined in formula IX



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14. A compound as claimed in any one of the preceding claims wherein Z is F.

15. A compound as claimed in any one of claims 1 to 13 wherein Z is OH.

16. A compound as claimed in any one of claims 1 to 13 wherein Z is OMe or OCH<sub>2</sub>Ph.

17. A compound as claimed in any one of the preceding claims, wherein X is unsubstituted phenyl or phenyl which is mono-, di- or tri-substituted with substituents independently selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl and C<sub>1</sub>-C<sub>4</sub> alkoxy.

20

18. A compound as claimed in claim 17, wherein X is unsubstituted phenyl or phenyl which is mono-substituted with fluorine.

19. A compound as claimed in any one of the preceding claims, wherein Y is phenyl  
5 optionally substituted with up to 5 substituents each independently selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl-S(O)<sub>n</sub>- where n is 0, 1 or 2, nitro, acetyl, -CF<sub>3</sub>, -SCF<sub>3</sub> and cyano.

20. A compound as claimed in claim 19, wherein Y is unsubstituted phenyl or phenyl  
10 which is mono-substituted with chlorine.

21. A compound as claimed in any one of the preceding claims, wherein Y is naphthyl  
optionally substituted with up to 5 substituents each independently selected from halo,  
15 C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl-S(O)<sub>n</sub>- where n is 0, 1 or 2, nitro, acetyl, -CF<sub>3</sub>, -SCF<sub>3</sub> and cyano.

22. A compound as claimed in claim 21, wherein Y is unsubstituted naphthyl or  
naphthyl which is mono-substituted with fluorine.

20 23. A compound as claimed in claim 21 or 22, wherein the point of attachment of the  
optionally substituted naphthyl group to the O or S atom is attachment at the 1 position.

24. A compound as claimed in any one of the claims 1-18, wherein Y is benzofuranyl  
optionally substituted with up to 5 substituents each independently selected from halo,  
25 C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl-S(O)<sub>n</sub>- where n is 0, 1 or 2, nitro, acetyl, -CF<sub>3</sub>, -SCF<sub>3</sub> and cyano.

25. A compound as claimed in claim 24, wherein Y is unsubstituted benzofuranyl or  
benzofuranyl which is mono-substituted with CH<sub>3</sub>.

30

26. A compound as claimed in any one of the claims 1-18, wherein Y is benzothienyl  
optionally substituted with up to 5 substituents each independently selected from halo,

C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl-S(O)<sub>n</sub>- where n is 0, 1 or 2, nitro, acetyl, -CF<sub>3</sub>, -SCF<sub>3</sub> and cyano.

27. A compound as claimed in claim 26, wherein Y is unsubstituted benzothienyl or  
5 benzothienyl which is mono-substituted with fluorine.

28. A compound as claimed in any one of the claims 1-18, wherein Y is  
benzoisothiazolyl optionally substituted with up to 4 substituents each independently  
selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl-S(O)<sub>n</sub>- where n is 0, 1 or 2,  
10 nitro, acetyl, -CF<sub>3</sub>, -SCF<sub>3</sub> and cyano.

29. A compound as claimed in any one of claims 24-28, wherein the point of  
attachment of the group Y to the O or S atom is attachment at the 7 position.

15 30. A compound as claimed in any one of claims 24-28, wherein the point of  
attachment of the group Y to the O or S atom is attachment at the 4 position.

31. A pharmaceutical composition comprising a compound of formula I or a  
pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, together  
20 with a pharmaceutically acceptable diluent or carrier.

32. A compound of formula I or a pharmaceutically acceptable salt thereof, as  
defined in any one of claims 1-30, for use as a pharmaceutical.

25 33. A compound of formula I or a pharmaceutically acceptable salt thereof, as defined  
in any one of claims 1-30, for use as a selective inhibitor of the reuptake of both serotonin  
and norepinephrine.

30 34. A compound of formula I or a pharmaceutically acceptable salt thereof, as  
defined in any one of claims 1-30, for use in the treatment of a disorder associated with  
serotonin and norepinephrine dysfunction in mammals.

35. A compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for use in the treatment of a disorder selected from depression, OCD, anxiety, memory loss, urinary incontinence, conduct disorders, ADHD, obesity, alcoholism, smoking cessation, hot flushes/flashes and pain.

5

36. The use of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for the manufacture of a medicament for selectively inhibiting the reuptake of serotonin and norepinephrine.

10 37. The use of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for the manufacture of a medicament for the treatment of a disorder associated with serotonin and norepinephrine dysfunction in mammals.

15 38. The use of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for the manufacture of a medicament for the treatment of a disorder selected from depression, OCD, anxiety, memory loss, urinary incontinence, conduct disorders, ADHD, obesity, alcoholism, smoking cessation, hot flushes/flashes and pain.

20

39. The use as claimed in claim 38, wherein the disorder is selected from depression, urinary incontinence and pain.

25 40. A method for selectively inhibiting the reuptake of serotonin and norepinephrine in mammals, comprising administering to a patient in need thereof an effective amount of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30.

30 41. A method for treating disorders associated with serotonin and norepinephrine dysfunction in mammals, comprising administering to a patient in need thereof an effective amount of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30.

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42. A method for treating a disorder selected from depression, OCD, anxiety, memory loss, urinary incontinence, conduct disorders, ADHD, obesity, alcoholism, smoking cessation, hot flushes/flashes and pain comprising administering to a patient in need

5 thereof an effective amount of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30.

43. The use as claimed in any one of claims 36-39, wherein the disorder is pain.

10 44. A method as claimed in any one of claims 40-42, wherein the disorder is pain.